

In the Claims

1. (currently amended) Device for depositing in particular crystalline layers on an in particular crystalline substrate, having:

a high-frequency-heated substrate holder heated by electrical conduction and made from conductive material for holding the a substrate with surface-to-surface contact,

which said substrate holder has a having a first zone and a second zone, said first zone formed of a material having a of higher electrical conductivity than the second zone, the first zone having a surface temperature (t_1) and the second zone having a surface temperature (t_2) when the substrate holder is heated by electrical conduction, where t_1 is greater than t_2 ,

characterized in that the first zone of higher electrical conductivity substantially corresponds to an area of the supported surface of the substrate.

2. (cancelled)

3. (previously presented) Device according to claim 1, characterized in that the zone is formed by an insert piece made from metal in a substrate holder which consists in particular of coated graphite.

4. (previously presented) Device according to claim 1, characterized in that the substrate holder has one or more substrate-bearing disks, which are in particular mounted on a gas bearing and each have an associated insert piece.

5. (previously presented) Device according to claim 1, characterized in that the insert piece is directly associated with the substrate bearing disk and in particular the entire substrate bearing disk consists of metal.

6. (previously presented) Device according to claim 1, characterized by a multiplicity of substrate bearing disks disposed in planetary fashion on a substrate holder.
7. (previously presented) Device according to claim 1, characterized in that the substrate bearing disk is located on a gas bearing in a bearing recess in the substrate holder and the insert piece or the more electrically conductive zone is associated with the base of the bearing recess.
8. (previously presented) Device according to claim 1, characterized in that the one or more insert pieces consist of molybdenum, tantalum, tungsten or the like.
9. (previously presented) Device according to claim 1, characterized in that the substrate holder is surrounded by an HF coil.
10. (previously presented) Device according to claim 1, characterized in that the substrate holder is disposed above an HF coil.
11. (previously presented) Device according to claim 1, characterized in that the reactor, with which the substrate holder is associated, is a cold-wall reactor, the walls of which are heated only by the radiation of the heated substrate holder.
12. (previously presented) Device according to claim 1, characterized in that the reactor is a tunnel reactor.
13. (previously presented) Device according to claim 1, characterized in that the reactor is a planetary reactor with a central gas feed and a rotating substrate holder, which is support for a multiplicity of substrate bearing disks arranged in planetary

fashion with respect to the center of the substrate holder, which substrate bearing disks in each case rotate on a gas bearing.

14. (currently amended) A device for depositing crystalline layers on a substrate comprising:

a substrate holder for holding a substrate therein;

a high-frequency heater heating said substrate holder by electrical conduction to thereby heat the substrate;

a first substrate holder zone formed of a material exhibiting a first electrical conductivity and having a surface temperature (t_1) when the substrate holder is heated by electrical conduction;

a second substrate holder zone formed of a material exhibiting a second electrical conductivity, said first electrical conductivity being higher than the second electrical conductivity, second substrate holder zone having a surface temperature (t_2) when the substrate holder is heated by electrical conduction, where t_1 is greater than t_2 ;

said first substrate holder zone directly contacting the substrate such that an increased amount of energy is transferred to the substrate from said first substrate holder zone than from said second substrate holder zone;

said first substrate holder zone substantially corresponding to an area taken up by the substrate.

15. (previously presented) The device according to claim 14, wherein said first zone comprises a piece formed from a metal that is insertable into said substrate holder.

16. (previously presented) The device according to claim 15, wherein said piece comprises coated graphite.

17. (previously presented) The device according to claim 1, wherein said piece is selected from the group consisting of: molybdenum, tantalum, tungsten and combinations thereof.

18. (new) A device for depositing crystalline layers on a substrate comprising:
a substrate holder having one or more substrate-bearing disks mounted on a gas bearing and each having an associated insert piece;

a high-frequency heater heating said substrate holder by electrical conduction to thereby heat the substrate;

a first substrate holder zone substantially corresponding to the insert and formed of a material exhibiting a first electrical conductivity and having a surface temperature (t_1) when the substrate holder is heated by electrical conduction; and

a second substrate holder zone formed of a material exhibiting a second electrical conductivity, said first electrical conductivity being higher than the second electrical conductivity, second substrate holder zone having a surface temperature (t_2) when the substrate holder is heated by electrical conduction, where t_1 is greater than t_2 ;

said first substrate holder zone directly contacting the substrate such that an increased amount of energy is transferred to the substrate from said first substrate holder zone than from said second substrate holder zone.

19. (new) A device for depositing crystalline layers on a substrate comprising:

a substrate holder having one or more substrate-bearing disks mounted on a gas bearing and each having an associated insert piece positioned beneath the associated substrate-bearing disk to form a bottom of the bearing recess;

a high-frequency heater heating said substrate holder by electrical conduction to thereby heat the substrate;

a first substrate holder zone substantially corresponding to the insert and formed of a material exhibiting a first electrical conductivity and having a surface temperature (t_1) when the substrate holder is heated by electrical conduction; and

a second substrate holder zone formed of a material exhibiting a second electrical conductivity, said first electrical conductivity being higher than the second electrical conductivity, second substrate holder zone having a surface temperature (t_2) when the substrate holder is heated by electrical conduction, where t_1 is greater than t_2 ;

said first substrate holder zone directly contacting the substrate such that an increased amount of energy is transferred to the substrate from said first substrate holder zone than from said second substrate holder zone.